Daniel Liu

🌐 website | ⊙ github | {} devpost | 🎮 itch.io | ✉ d278liu@uwaterloo.ca | ☎ 226-759-3635

projects

DiscourseVR⌗ : Multiplayer VR Debate   📅 Apr 2021

- Built a **multiplayer VR** application with networked voice and text chat using the **Unity Game Engine** along with packages like Mirror, Dissonance, and RockVR
- Created a companion **Vue** webapp using **Nuxt** and **TailwindCSS** to playback the recorded debate, along with a **Google speech-to-text API** generated live transcript
- Served video files through **NGINX** and wrote a **shell script** to automatically format videos with **ffmpeg** and upload to the main server via **rsync**

PinoHacks Frontend⌗ & Backend⌗ : Mock Hackathon Platform   📅 Mar 2021

- Mocked up a full hackathon platform complete with a **Typescript GraphQL** backend with **TypeORM** to interface with a **SQLite** database, as well as a **Vue** frontend with multi language **localization**
- **Dockerized** project and deployed on personal vps using the **NGINX** web server and **Cloudflare** DDoS protection

Quizzikal⌗ : Educational Trivia with Friends   📅 Aug 2020

- Developed a crowdsourced trivia webapp using **Vue** and the **Vuetify** component library to encourage pandemic learning
- Deployed a backend that exposes **REST** endpoints, performed authentication using **JSON Web Tokens**, and interacted with a **PostgreSQL** database to store user data

OmniSyncr⌗ : Peer Video Syncing Chrome Extension   📅 May 2020

- Created Chrome Extension using **Vue**, **Vuex** and **Vue-Bootstrap** winning **Best Education Hack** at MasseyHacksVI
- Implemented room creation and joining using an **Express** backend with **MongoDB** to store sessions, and **Firebase** for real time communication between clients

skills

Languages

  programming C, C++, C#, Haskell, Java, JavaScript/TypeScript, Python
  markup HTML, CSS, LaTeX, Roff
  other Unix Shell/Bash, SQL, GraphQL, HLSL

Tools/Frameworks

  frontend Vue, React, Django, Bootstrap
  backend Node, Express, MongoDB, PostgreSQL
  linux Vim, Git, NGINX, Docker, Arch Linux
  game dev Unity, LibGDX, Blender, Tiled

education

University of Waterloo   📅 2020–2025

Bachelor's of Computer Science with Digital Hardware

interests

Hackathons & Game Jams

Participated and submitted to 10+ hackathons and 5+ game jams

Manga Scanlation

Translate, clean, and typeset a variety of Japanese manga

experience

Canadian Young Physicist's Tournament : Bronze Medalist   📅 2019–2020

- Designed and presented experiments to investigate fascinating physics phenomena like magnetic levitation, throwing card aerodynamics, and the Coanda Effect
- Used **Python** libraries like **Pandas** and **NumPy** to supplement physical models, as well as **Matplotlib** to generate a of variety graphs

SHAD York 2019   📅 2019

- Developed a prototype **Android app** in **Java** and **Android Studio** to encourage purchasing of more environment friendly products and pitched to a panel of **angel investors**

CodeReach : Teaching Assistant   📅 2018–2019

- Organized after school program to teach grades 7-8 students the fundamentals of **Python** scripting and **Pygame** graphics programming
- Prepared **20+ weeks** of lecture material, assignment questions and projects